

## ZYGINELLA PULCHRA LÖW (HEMIPTERA: CICADELLIDAE) – A LEAFHOPPER NEW TO THE BRITISH ISLES

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### ABSTRACT

A species of leafhopper, *Zyginella pulchra* Löw, not previously recorded in Britain, was found at East Malling, Kent in 2001. *Zyginella pulchra* is the only representative of the genus *Zyginella* in Great Britain. The species is widely distributed in the Palaearctic region, including France, so its discovery in southern England is not surprising.

### INTRODUCTION

A comprehensive survey of arthropod biodiversity, including leafhoppers, was conducted in an experimental apple orchard (Wiseman's field) at East Malling, Kent between 2001–2006. The orchard was surrounded by arable fields, other fruit orchards, including pear and cherry and small areas of woodland.

The most frequently recorded leafhopper species, in descending order of abundance were *Empoasca decipiens* Paoli, *Edwardsiana rosae* (L.), *Ribautina debilis* (Douglas), *Edwardsiana crataegi* (Douglas) and *Eupteryx atropunctata* (Goeze). A male specimen of a species of Cicadellidae not collected previously was found on a yellow sticky trap on 4 September 2001. This species proved to be *Zyginella pulchra* Löw (Plate 2, Fig. 1), new to the British Isles. The identification of the specimen was confirmed by András Orosz, an Auchenorrhyncha specialist at the Natural History Museum, Budapest, Hungary. A description of the species, its distribution and ecology including host plant data are given below.

### DESCRIPTION

*Zyginella pulchra* Löw: Length: ♂♀: 3.0–3.4 mm. The pronotum is entirely pale, the ventral part of the thorax black (Fig.2a). The dorsal part of the abdomen can be pale or black. The head of the ♂ is pale. In the ♀ there is a black transverse band between the compound eyes. Fore wings are yellow, with black and sometimes reddish markings. Behind the region of the wax glandules, a transverse black band passes across the subcostal and radial veins. There is second black band on the external transverse apical vein; and a third one parallel with the previous one in the middle of the external apical cell, connecting longitudinally with the pedicle of the triangular-shaped internal distal cell. Inside this cell a roundish black spot connects with the medial apical vein. The edge of the three internal apical cells and the end of the three internal distal cells are strongly smoke-coloured. There is often a black, variably developed spot on the clavus (Ribaut, 1936).

Identification is based on male genitalia. The genital plates are elongate and narrow (Figs 2b & 2c). The pointed, javelin shaped styli curve slightly outwards. The base of the aedeagus is strongly elongate, ventrally. The free part of it is formed by three equal-sized stems. The central stem, which includes the tube, gently curves

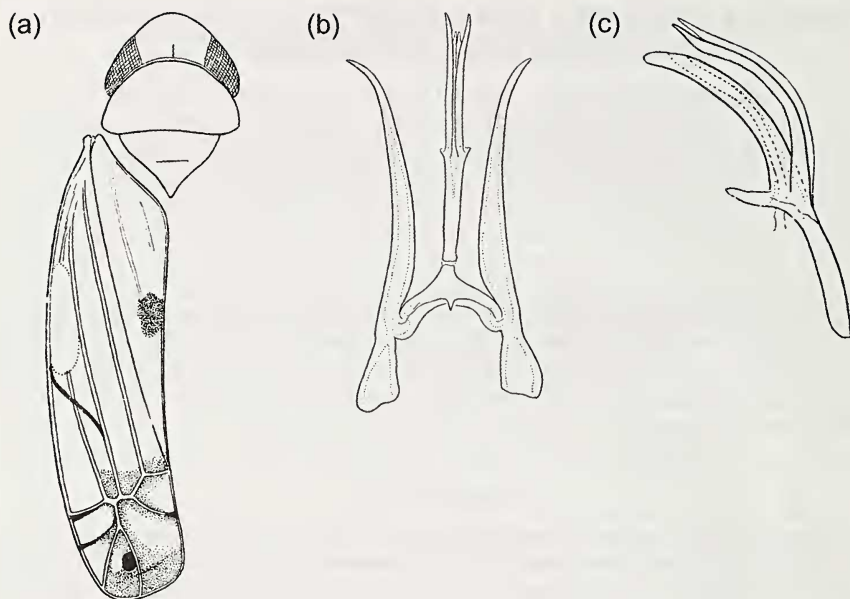


Fig. 2. *Zyginella pulchra* (a) head, thorax and left forewing, after Ribaut (1936), (b) ventral and (c) lateral view of aedeagus.

towards the back, from a sagittal view gently receding. The two lateral stems are elongate, pointed, and finely papillose on their dorsal surfaces (Ribaut, 1936).

The male specimen of *Z. pulchra* found in the orchard at East Malling Research Station (Plate 2, Fig. 1) was clearly identifiable by its genitalia (Figs. 2b & 2c). The clavus region of the fore wings of this specimen was red with a longish dark spot on the commissural border.

The genus *Zyginella* can be distinguished from other genera in the Typhlocybinae by the vein structure of the hind wings. The radial and subcostal veins of the hind wings are distinct in the genera *Eurhadina*, *Aguriahana* and *Eupteryx*, but coalesce before the apex in the genera *Zyginella*, *Eupterycyba* and *Linnavuoriana*. In the genus *Zyginella*, the peripheric and median veins of the hind wings coalesce before the apex, while in the genera *Eupterycyba* and *Linnavuoriana*, the peripheric veins of the hind wings end freely, or run along by the side of the wings, leading into the united vein formed by the subcostal and radial veins.

#### DISTRIBUTION AND ECOLOGY

*Zyginella pulchra* is widely distributed in the Palaearctic region and appears to be principally a steppe species (Nast, 1972). Metcalf (1968) reports the distribution of the species as being from Austria, Germany, Croatia, Italy, Serbia, Slovakia, Netherlands, Cyprus, France, Greece. Nast (1972) also mentions it occurring in Bulgaria, Poland, Israel, Turkey and U.S.S.R. (Ukraine and Crimea). It occurs on a wide range of woody plants. Ribaut (1936) recorded it on cultivated *Prunus*, *Buxus*, *Cupressus* and *Juniperus* spp. In Hungary, it was first detected in 2001 from *Tilia* and

*Acer* spp. (Kondorosy & Orosz, 2001). Collection dates were mainly in September and October but also in May, June and July. Mainly found on *Acer pseudoplatanus*, less frequently on *A. campestre*, *A. platanoides* and *A. monspessulanum*, also occasionally (but probably not breeding) on *Quercus*, *Crataegus* and *Alnus* (Löw, 1885; Then, 1886). Overwintering individuals have been found on *Picea* (Nickel, 2003). Adults are usually swept from along forest margins as well as from parks and roadside trees in urban areas. In the 1930s the only known German localities were near Mainz, but during the past two decades *Z. pulchra* has been recorded from scattered sites over most of central Germany. It has been suggested, that there was a recent north-eastward range expansion, with anthropogenic habitats being colonized first, but the evidence is not convincing. An increasing number of records may simply have been caused by increasing awareness of the species occurring in late summer, when collecting activity on trees is generally low (Nickel, 2003).

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#### SHORT COMMUNICATION

***Ponera coarctata* (Latreille) (Hymenoptera: Formicidae) in East Cornwall.** – A lone worker of this rare ant was found beneath a mat of thyme growing across outcropping rock at Pentire Point (SW9280), St Minver Highlands, 2.viii.2006. It has only previously been reported in Cornwall from the far west, on the rocky cliffs of The Lizard (Mellor & Mellor, 1997). The species is best known in the south-west from the south Devon coast, and so the Pentire site is also the first from the north coast. – KEITH N.A. ALEXANDER, 59 Sweetbrier Lane, Heavitree, Exeter EX1 3AQ.

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